Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference IPY-129	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/JP2003/004438	International filing date (*day/month/year*) 08 April 2003 (08.04.2003)	Priority date (*day/month/year*) 08 April 2002 (08.04.2002)
International Patent Classification (IPC) or national classification and IPC G11B 7/24		
Applicant NEC CORPORATION		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
08 April 2003 (08.04.2003)	02 August 2004 (02.08.2004)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP2003/004438

I. Basis of the report

1. With regard to the **elements** of the international application:*

☒ the international application as originally filed

☐ the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the claims:

pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the drawings:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

☐ the sequence listing part of the description:

pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____
☐ the claims, Nos. _____
☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP03/04438

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-5, 10-16	YES
	Claims	6-9	NO
Inventive step (IS)	Claims		YES
	Claims	1-16	NO
Industrial applicability (IA)	Claims	1-16	YES
	Claims		NO

2. Citations and explanations

Document 1: JP, 10-64120, A (Toshiba Corp.), 6 March, 1998 (06.03.98), paragraphs 0009 and 0011 (Family: none)
Document 2: JP, 8-273204, A (Nikon Corp.), 18 October, 1996 (18.10.96), paragraph 0015 (Family: none)
Document 3: JP, 2002-8269, A (Sony Corp.), 11 January, 2002 (11.01.02), paragraphs 0026, 0028 and 0034 (Family: none)

Claims 1 and 2

Documents 1 and 2 respectively describe a land-groove type optical disc used for recording and reproducing information based on the change of reflectance, and also describe that the groove depth d is formed to satisfy the relation of $\lambda/(6n) \leq d \leq \lambda/(5n)$.

Document 3 describes that a disc is irradiated with a laser beam from the side of a light transmitting layer for recording information.

An optical disc and an optical disc recording method in which recording increases the reflectance are well known, and it is not considered especially difficult to apply the well-known optical disc recording method to the optical disc of document 1 or 2.

Claims 3-5

Document 3 describes an optical disc in which a reflection film, a dielectric layer, a recording layer, a dielectric layer and a light transmitting layer are laminated in this order on a substrate.

Claims 6 and 7

Documents 1 and 2 respectively describe a recording method for a land-groove type optical disc in which the groove depth d satisfies the relation of $\lambda/(6n) \leq d \leq \lambda/(5n)$, characterized in that the recording layer is irradiated with a laser from the substrate side of the disc for recording information.

An optical disc and an optical disc recording method in which recording increases the reflectance are well known, and it is not considered especially difficult to apply the well-known optical disc recording method to the optical disc of document 1 or 2.

Claims 8 and 9

Document 1 describes an optical disc in which a dielectric layer, a recording layer and a reflection film are laminated in this order on a substrate.

Claim 10

According to the explanation in the specification of the present application, as the disc having parameter R kept in a range from 0.55 to 0.7, those described in claims 1-9 can be enumerated and a person skilled in the art could have easily conceived of those discs based on documents 1-3 already referred to.

Supplemental Box
(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of : V.2

Claims 11 and 12
Document 3 describes an optical disc in which a reflection film, a dielectric layer, a recording layer, a dielectric layer and a light transmitting layer are laminated in this order on a substrate.

Claims 13 and 14
Document 1 describes an optical disc in which a dielectric layer, a recording layer and a reflection film are laminated in this order on a substrate.

Claims 15 and 16
Document 3 describes that an objective lens with a numerical aperture of 0.85 is used to irradiate an optical disc with light having a wavelength of 400 nm for recording and reproducing information.